2007 Infant Mortality and Disparity Fact Sheet

THE CITY OF MILWAUKEE'S infant mortality rate (IMR=number of infant deaths per 1000 live births) declined in 2007 to 9.8 infant deaths per 1000 live births (see Table 1). During the past 10 years, Non-Hispanic (NH) White and Hispanic infant mortality rates have kept a slight but steady decline while the Non-Hispanic (NH) Black infant mortality rate has remained very high. Milwaukee's 9.8 IMR is substantially higher than Wisconsin's IMR of 6.5[1] and the United States 2006 rate of 6.7[2]. The city of Milwaukee ranked an unsatisfactory 46th for IMR among the 53 largest cities in the US[3]. Milwaukee faces a number of difficult societal factors which exacerbate the issue (see Table 2).

Table 1 **2007 Infant Mortality Rates**

Race/Ethnicity	Milw. Births	Milwaukee IMR (# of deaths)	WI IMR
NH-Black	5,376	14.1 (76)	14.5
NH-White	2,910	6.2 (18)	5.3
Hispanic	2,473	5.3 (13)	6.4
Total Population	11,380	9.8 (111)	6.5

Table 2 **2007 Societal Indicators**

Indicator	Milw.	Wisconsin	US
Infant Mortality	9.8	6.5[1]	6.7[2]
Preterm Birth (<37 weeks)	10.5%	11.1%[1]	12.7%[2]
Children in poverty[7]	39.0%	15.0%	18.0%
Teens who are high school dropouts[7]	9.0%	5.0%	7.0%
Teens not attending school and not working [7]	9.0%	6.0%	8.0%
Children living in families where no parent has full-time, year round employment[7]	46.0%	28.0%	33.0%
Children in low income households where no adults work[7]	11.0%	3.0%	4.0%

Infant Mortality Rates for Specific Causes of Death by Race

The table below lists the rates for the three most common causes of infant mortality in the city of Milwaukee compared to the entire state of Wisconsin (2007 data). Infants born in the city of Milwaukee are approximately twice as likely to die of complications resulting from prematurity and three times more likely to die from Sudden Infant Death Syndrome (SIDS) or related causes, compared to infants born in Wisconsin as a whole. In the city of Milwaukee, these causes of death are major contributors to the disparity between the Black and White infant mortality rates. Hispanic mortality rates for each of the causes below also are particularly high when compared to the Wisconsin Hispanic rates and Wisconsin total rates.

Prematurity and Associated Factors

Complications due to prematurity stand out as the greatest cause of infant death and disparity in Milwaukee. In 2007, of all infants who died, 45% died from complications due to prematurity.

Preterm labor can happen to anyone. In fact, only half the women who have preterm labor have a known risk factor.[4] The most common risk factors for prematurity are seen more frequently in Black and Hispanic births than White births.

They are:
- maternal smoking
- previous preterm birth
- maternal infections during pregnancy
- lack of family planning
- quality prenatal care

The Effects of Smoking during Pregnancy by Race

Smoking during pregnancy is a major public health concern. According to the US Public Health Service, if all pregnant women in the US stopped smoking, there would be an 11% reduction in the number of stillbirths and a 5% reduction in the number of newborn deaths.[8] Smoking during pregnancy can cause a baby to be born too soon and have a low birth weight. Smoking during pregnancy is a risk factor in placental abruptions and preterm rupture of placental membranes. Exposure to secondhand smoke also increases the risk of asthma and ear infections in infants.

Infant mortality rates are significantly increased if the mother is a smoker. Over the past 10 years in Milwaukee, progress has been made in reducing the percentage of mothers who smoke during pregnancy among each of the noted races. However, 29.9% of women who lost a baby in 2007 were smokers.

Maternal Infection during Pregnancy and Race

Urinary tract infections (UTI), dental infections, and sexually transmitted infections (STI) are all associated with preterm labor. While the pathways are unclear, some women develop a systemic response to some pathogens.[5] Immune responses to

Table 3 **2007 Specific Causes of Death by Race**

Cause of Death	City of Milwaukee Total Rate (no. of deaths)	WI Total Rate[1]	City of Milwaukee NH-White Rate (no.)	WI NH-White Rate[1]	City of Milwaukee NH-Black Rate (no.)	WI NH-Black Rate[1]	City of Milwaukee Hispanic Rate[1] (no.)	WI Hispanic Rate[1]
Complications of Prematurity	4.4 (50)	2.42	2.1 (6)	2.1	7.3 (39)	5.81	2.0 (5)	2.89
Birth Defects	2.0 (23)	1.43	2.1 (6)	1.25	1.5 (8)	1.8	2.0 (5)	2.03
SIDS/SUDI/Entrapment	2.7 (31)	1.13	0.21 (6)	0.88	4.5 (24)	3.46	0.0 (0)	0.00

bacteria are thought to drive infection-induced preterm labor. Maternal infection was identified in 57.7% of 2007 infant deaths; 71.9% of those women experienced preterm labor. 78.3% of those mothers were Black.

Previous Preterm Birth, Current Preterm Birth and Race

Preterm birth includes losses through miscarriage, stillbirth, elective and therapeutic abortions. A previous preterm birth was seen in 52.9% of the mothers who had a 2007 infant death; 83.3% of these mothers were Black women. Dr. Fredrik Broekhuizen, a Milwaukee obstetrician, has stated that "A previous poor pregnancy outcome should be considered the principal reason to get early and well managed prenatal care with any and all subsequent pregnancies. Ideally, such care should begin right after the loss or poor outcome and contact should be maintained through to the next delivery."

SIDS/SUDI/Entrapment and Infant Mortality

Some aspect of an unsafe sleep environment was seen in 100% of 2007 infant deaths due to Sudden Infant Death Syndrome (SIDS) or related causes. Factors identified by the Center for Disease Control and Prevention[6] that increase an infant's risk of SIDS include:

- Tummy (prone) or side sleeping,
- Soft sleep surfaces (couch, pillows, waterbeds, toys),
- Bed sharing (co-sleeping),
- Loose bedding (pillows, quilts, blankets),
- Sleeping in a car seat or infant swing,
- Exposure to secondhand smoke, and/or
- Being born preterm or having a low birth weight.

Of the 120 City of Milwaukee infants who died between 2004 and 2007 of SIDS, SUDI, entrapment or infection,

- 72 infants were sharing a bed with parents, other children or a caregiver when they died.*
- 58 of the infants who died had been placed on their stomachs (prone) or side to sleep.*
- 14 of the infants who died were sleeping with an adult on a couch.*
- 76 of these infants were exposed to secondhand smoke in their homes.*
- 69 of the infants who died were sleeping on or near adult pillows or were put to sleep with blankets, quilts or stuffed animals.*

* *Numbers are not mutually exclusive. Many infants had multiple risk factors.*

Some Recommendations to Prevent Infant Death

Regarding Safe Sleep, the American Academy of Pediatrics' 2005 position paper states that a baby should sleep:

- in a crib (not in a bed, and certainly not in the same bed as adults or other people).
- with a tight fitting sheet.
- on his/her back.
- without bumper pads, pillows, blankets or toys.
- at a room temperature that is comfortable for the family.

To reduce the risk of preterm birth, all healthcare professionals as well as all women of child-bearing age and their partners should know and discuss:

- Signs and symptoms of preterm labor
- Appropriate fetal movement
- The importance of avoiding, identifying, and treating all sexually transmitted infections, urinary tract infections, and dental infections
- The increased risk of having a subsequent preterm delivery after having a prior preterm delivery

Cigarette smoking contributes not only to preterm labor and low birth-weight, but is also associated with stillbirth and infant death during the first year of life, pneumonia, asthma and ear infections. Parents should:

- Stop smoking. Call the Wisconsin Quitline at 1-800-QUIT-NOW or get help from a healthcare professional
- NEVER smoke around a baby or a pregnant woman.
- Make sure that no one smokes in your home.
- If there is a smoker in the house, make sure they go outside to smoke.

Think Health Act Now!
CITY OF MILWAUKEE HEALTH DEPARTMENT
Tom Barrett, Mayor
Bevan K. Baker, Commissioner of Health
www.milwaukee.gov/health

Unless otherwise indicated, all Milwaukee data is from the City of Milwaukee Health Department's birth certificate database and Fetal Infant Mortality Review (FIMR) data.

Note: All races and ethnicity references in this document are defined as, and are synonymous with:

White = Non-Hispanic White
Hispanic = Includes all races,Hispanic ethnicity
African American = Non-Hispanic Black
There are insufficient births to other races/ethnicities for analysis.

[1] Wisconsin Interactive Statistics on Health (WISH), 2006 at http://dhfs.wisconsin.gov/wish/index.htm.

[2] National Vital Statistics Reports: Births, Marriages, Divorces, and Deaths: Provisional Data for January 2007, Vol. 56, Number 1 October 5, 2007

[3] Big Cities Health Inventory: The Health of Urban America, 2007, National Association of County and City Health Officials, Benbow, N., editor. Washington, D.C. 2007.

[4] http://www.marchofdimes.com/pnhec/188_1080.asp

[5] http://eclipse.nichd.nih.gov/nichd/annualreport/2001/prb/pu.htm

[6] Center for Disease Control and Prevention, 2007 at http://www.cdc.gov/SIDS/riskfactors.htm

[7] The Annie E. Casey Foundation Milwaukee Profiles at http://www.kidscount.org/datacenter/profile_results.jsp?r=311&d=1

[8] March of Dimes at http://www.marchofdimes.com/professionals/14332_1171.asp

http:/health.usnews.com/articles/health/healthday/2008/10/15/us-ranks-29th-in-infant-mortality.html

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